

CLAIMS

What is claimed is:

1. A suspension system for a vehicle, comprising:
 - a frequency dependent damper defining a first pressurized working chamber;
 - an air spring assembly defining a second pressurized working chamber;
 - and
 - a booster enabling pressure communication between said first pressurized working chamber and said second pressurized working chamber.
2. The suspension system of claim 1 wherein said booster comprises:
 - a housing defining segmented chambers; and
 - a piston assembly slidably disposed within said segmented chambers.
3. The suspension system of claim 2 wherein said piston assembly comprises:
 - a first piston dividing a first segmented chamber and a second segmented chamber; and
 - a second piston interconnected with said first piston and dividing said second segmented chamber and a third segmented chamber.
4. The suspension system of claim 3 wherein said first segmented chamber is in fluid communication with said second pressurized working chamber and said

third working chamber is in fluid communication with said first pressurized working chamber.

5. The suspension system of claim 4 wherein said first piston is of a larger diameter than said second piston.

6. The suspension system of claim 1 further comprising a restrictor disposed between said air spring assembly and said booster to inhibit pressurized fluid flow therebetween.

7. The suspension system of claim 1 further comprising a limiter that limits operation of the booster.

8. A suspension system disposed between a sprung portion and an unsprung portion of a vehicle, comprising:

a frequency dependent damper defining a first pressurized working chamber;

an air spring assembly integrated with said frequency dependent damper and defining a second pressurized working chamber; and

a booster enabling pressure communication between said first pressurized working chamber and said second pressurized working chamber.

9. The suspension system of claim 8 wherein said booster comprises:

a housing defining segmented chambers; and

a piston assembly slidably disposed within said segmented chambers.

10. The suspension system of claim 9 wherein said piston assembly comprises:

a first piston dividing a first segmented chamber and a second segmented chamber; and

a second piston interconnected with said first piston and dividing said second segmented chamber and a third segmented chamber.

11. The suspension system of claim 10 wherein said first segmented chamber is in fluid communication with said second pressurized working chamber and said

third working chamber is in fluid communication with said first pressurized working chamber.

12. The suspension system of claim 11 wherein said first piston is of a larger diameter than said second piston.

13. The suspension system of claim 8 further comprising a restrictor disposed between said air spring assembly and said booster to inhibit pressurized fluid flow therebetween.

14. The suspension system of claim 8 further comprising a limiter that limits operation of the booster.

15. A vehicle, comprising:
- a sprung component;
 - an unsprung component; and
 - a suspension system disposed between said sprung portion and said unsprung portion, said suspension system comprising:
 - a frequency dependent damper defining a first pressurized working chamber;
 - an air spring assembly defining a second pressurized working chamber; and
 - a booster enabling pressure communication between said first pressurized working chamber and said second pressurized working chamber.
16. The vehicle of claim 15 wherein said booster comprises:
- a housing defining segmented chambers; and
 - a piston assembly slidably disposed within said segmented chambers.
17. The vehicle of claim 16 wherein said piston assembly comprises:
- a first piston dividing a first segmented chamber and a second segmented chamber; and
 - a second piston interconnected with said first piston and dividing said second segmented chamber and a third segmented chamber.

18. The vehicle of claim 17 wherein said first segmented chamber is in fluid communication with said second pressurized working chamber and said third working chamber is in fluid communication with said first pressurized working chamber.

19. The vehicle of claim 18 wherein said first piston is of a larger diameter than said second piston.

20. The vehicle of claim 15 further comprising a restrictor disposed between said air spring assembly and said booster to inhibit pressurized fluid flow therebetween.

21. The vehicle of claim 15 wherein said frequency dependent damper and said air spring assembly comprise an integrated shock assembly.

22. The vehicle of claim 15 further comprising a limiter that limits operation of the booster.